

REMARKS

In the Office Action dated May 21, 2009, claims 18, 19 and 22-38, in the above-identified U.S. patent application were rejected. Reconsideration of the rejections is respectfully requested in view of the above amendments and the following remarks. Claims 18, 19, 22-23 and 25-38 remain in this application, claims 20-21 have been withdrawn and claims 1-17 and 24 have been canceled. The claims have been amended to indicate that the receptor building blocks are biopolymers as previously indicated in claim 24. These amendments are also supported by the disclosure on page 5, lines 9-27. Since these limitations were previously recited in claim 24, applicants contend that they do not raise new issues.

Claims 18-19, 24-25, 27-28, 30-34 and 36 were rejected under 35 USC §102(b) as anticipated by Schuetz. Applicants respectfully point out that in the presently claimed invention, the receptors are synthesized on the carrier by the application of biopolymer receptor building blocks to the carrier. Hapten groups are applied to the carrier before, during and/or after the receptor synthesis. Thus, the method according to the present invention requires the presence of both receptors and haptens. The office action indicates that the claims in the present application do not differentiate a receptor from a hapten and thus the hapten could be the same as Schuetz's immobilized receptor. Applicant's point out that Schuetz describes an array structure for multianalyte detection. The array comprises a carrier with a solid surface (plain glass or microtitoplate) and different haptens which are immobilized on distinct areas of the carrier. Each of

the immobilized haptens specifically bind an antibody. To build up such an array, the different haptens are immobilized in distinct areas, whereas special areas of interest (AOI) are created for the corresponding analytes. The immobilized haptens then function as a receptor molecule which has a specific affinity to an analyte which is disclosed as an antibody having an affinity to a specific hapten. Thus, within the array taught by Schuetz, the haptens are clearly used as a receptor. Schuetz's haptens/receptors are low molecular weight non-peptidic organic substances (see Figure 1 of Schuetz). Therefore, Schuetz's haptens/receptors are non-polymeric. In contrast to Schuetz, the receptors in the presently claimed invention are biopolymers. In addition, Schuetz does not disclose the use of a microfluidic carrier as recited in claim 18 part (a) or the method steps recited in claim 18, parts (b), (c) and (d) which describe the synthesis of the biopolymeric receptor. In view of the fact that Schuetz does not disclose a microfluidic carrier, biopolymeric receptors, synthesis of the receptors on the carrier and the use of both haptens and receptors, applicants request that this rejection be withdrawn.

Claims 18-19 and 22-38 were rejected under 35 USC §103(a) as unpatentable over WO 0013018, WO 0289971 or WO 0232567 in view of Wu, Gray or Edwards. Applicants respectfully point out that the combination of cited prior art does not suggest or disclose a method where biopolymeric receptors are synthesized on a carrier in the presence of hapten groups. There is no suggestion in the cited prior art that hapten groups should be applied to a carrier

in addition to the polymeric receptor building blocks. In the prior art (Wu, Gray and Edwards), the haptens are solely used for the purification of receptors. This use of haptens is therefore completely different from the use in the method according to the present invention. The office action acknowledges that Wu, Gray and Edwards do not disclose the application of hapten groups to the carrier before, during or after the synthesis of receptors *in situ* (pages 9-10 of the office action) but contends that WO 0013018, WO 0289971 and/or WO 0232567 teach a carrier coated with peptides which the office action contends is the same as the hapten recited in the present claims. Applicants respectfully point out that if the peptides disclosed in WO 0013018, WO 0289971 and/or WO 0232567 are considered to be equivalent to the haptens recited in the present claims, then there is no component in WO 0013018, WO 0289971 and/or WO 0232567 which corresponds to the biopolymeric receptor in the present claims. These are two separate components which are recited separately in the present claims. WO 0013018, WO 0289971 and/or WO 0232567 do not suggest or disclose the use of two separate components corresponding to a hapten and a receptor as in the present claims. Applicants also point out that none of the cited references suggest or disclose the advantages of using haptens in the production of biopolymeric receptor-loaded carriers and thus one skilled in the art would not be motivated to use haptens and receptors together as in the present invention. Therefore, none of the cited references individually or in combination suggests or discloses that haptens can be used during the *in situ* synthesis of the receptors in

order to control and/or determine the quality and efficiency of the receptor synthesis.

In view of the above discussion, applicants request that this rejection be withdrawn.

Applicants respectfully submit that all of claims 18-19, 22-23 and 25-38 are now in condition for allowance. If it is believed that the application is not in condition for allowance, it is respectfully requested that the undersigned attorney be contacted at the telephone number below.

In the event this paper is not considered to be timely filed, the Applicant respectfully petitions for an appropriate extension of time. Any fee for such an extension together with any additional fees that may be due with respect to this paper, may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

By /Monica Chin Kitts/

Monica Chin Kitts
Attorney for Applicant
Registration No. 36,105
ROTHWELL, FIGG, ERNST & MANBECK
1425 K. Street, Suite 800
Washington, D.C. 20005
Telephone: (202) 783-6040

MCK/cb